

WHAT IS CLAIMED IS:

1. A process of manufacturing a sleeve for connector of optical fibers comprising:
  - shaping a member made of stainless steel into a hollow cylinder;
  - 5 forming at least one portion to be heated on an outer circumferential surface of the cylinder;
  - inserting a cylindrical rod into a bore of the cylinder;
  - melting the portion to be heated by laser;
  - cooling for contracting the bore of the cylinder onto the rod; and
  - 10 removing the cool rod from the cylinder to produce the finished sleeve having a tolerance within  $1\ \mu\text{m}$ .
2. The process of claim 1, wherein the rod is formed of ceramic material.
3. The process of claim 1, wherein the portion to be heated has a depth about one-half of thickness of the cylinder.
- 15 4. The process of claim 1, wherein the portion to be heated is a recessed flat.
5. The process of claim 1, wherein the portion to be heated is a straight groove.
6. The process of claim 1, wherein the portion to be heated is an annular groove.
- 20 7. A sleeve manufactured according to the process of claim 1.